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COUNTRY ANALYSIS BRIEFS

Germany

Last Updated: November 2005

Background

Germany is one of the world's largest energy consumers. Because the country has limited domestic energy resources (except for coal), Germany imports most of its energy.

Germany has one of the largest economies in the world, with a 2004 nominal gross domestic product (GDP) of $2.7 trillion. However, in recent years, a combination of high unemployment and sluggish domestic demand has dampened German economic growth. The country posted real GDP growth of 1.6 percent in 2004, after GDP contracted by 0.7 percent in 2003.

Owning to its large economy, Germany is one of the world's largest energy consumers. In 2003, the country consumed 14.2 quadrillion British Thermal Units (Btu) of total energy, the fifth-largest amount in the world. Besides coal, Germany does not possess any sizable hydrocarbon reserves, so the country must rely upon imports to meet much of its energy needs. In 2003, Germany imported 63 percent of its total energy needs, up from 44 percent in 1991. The lack of domestic energy resources has led Germany to become a world leader in the development of renewable energy technologies, with the country becoming the world's largest generator of electricity from wind.

Oil

Germany is the third-largest oil importer in the world, behind the United States and Japan .

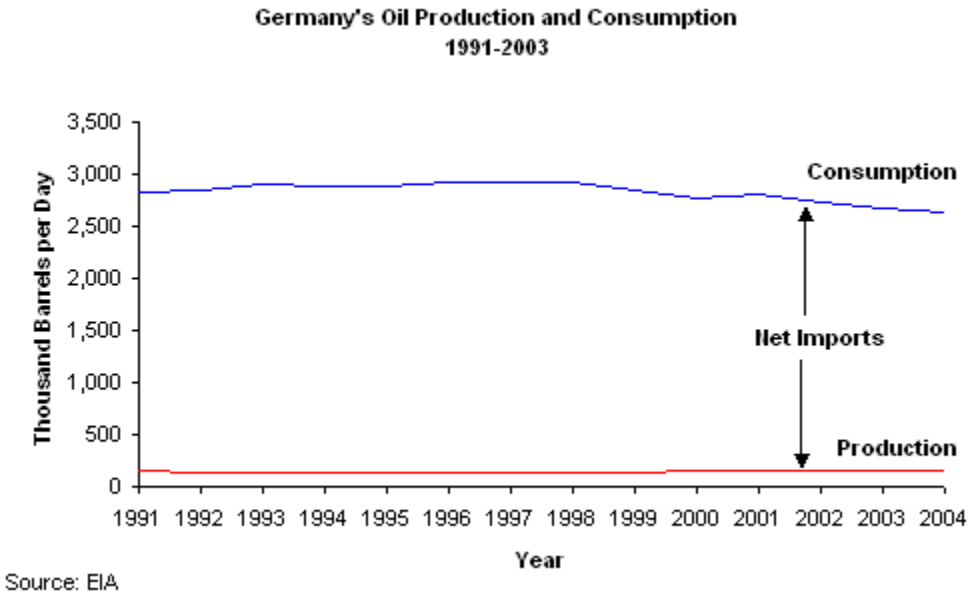
According to *Oil and Gas Journal* (*OGJ*), Germany had 390 million barrels of proven oil reserves in 2005. Most of these reserves are located in northern and northeastern Germany. The country produced 162,000 barrels per day (bbl/d) of oil in 2004, of which 68,000 bbl/d (42 percent) was crude oil. Over one-half of Germany's crude oil production comes from a single field, Mittelplate, located in tidal flatlands in the North Sea. Mittelplate is a joint project of German oil and gas companies RWE and Wintershall AG.

Due to the size of the German economy and the lack of significant domestic oil production, Germany is one of the world's largest oil importers. In 2004, Germany consumed 2.6 million bbl/d of oil, with imports supplying over 90 percent of these needs. According to BAFA, the German economics statistics agency, the largest source of Germany's crude oil imports in 2004 was Russia, followed by Norway and the United Kingdom.

Pipelines

Domestic System

Germany has several large pipeline systems that deliver crude oil from import terminals along its northern coastline to inland refineries. The 440-mile Minveraloelverbungleitung (MVL) connects the cities of Rostock, Schwedt, and Spergau in eastern Germany. Majority-owned by France's Total, MVL supplies oil refineries in Schwedt and Spergau with crude oil from an oil terminal at Rostock, with a capacity of 380,000 bbl/d. MVL also connects with the Druzhba crude oil pipeline from Russia at the Poland-Germany border, near Schwedt.



Source: EIA

The Norddeutsche Oelleitung (NDO) crude oil pipeline in northern Germany connects an oil terminal and refinery in Hamburg with an oil terminal in Wilhelmshaven. The 90-mile NDO has a capacity of 150,000 bbl/d. Another crude oil pipeline, the 240-mile, 300,000-bbl/d Nord-West Oelleitung (NWO), connects Wilhelmshaven with Wesseling, near Cologne, supplying oil refineries in the area.

The largest source of German oil imports is Russia, followed by Norway and the United Kingdom .

International System

The Transalpine Oelleitung (TAL) connects oil refineries and storage facilities in southern Germany with Trieste, Italy. The system has two principle components: the 290-mile, 40-inch TAL-IG, which links Trieste with Ingolstadt, Bavaria; and the 140-mile, 26-inch TAL-OR, which links Ingolstadt to Karlsruhe, near the Germany-France border. The TAL system had an average throughput of 690,000 bbl/d in 2004. Another crude oil pipeline, the Central European Line (CEL), also used to connect Italy with Germany, running from Genoa to Ingolstadt. However, rising costs, environmental issues, and competition from the TAL forced the closure of the CEL in 1997. The line was subsequently converted to carry natural gas, and is now owned by E.ON-Ruhrgas and Bayerngas.

The Suedeuropauische Oelleitung (SPSE) connects the oil import terminals of Fos-su-Mer/Lavera, France to Karlsruhe, supplying several refineries in the area. A consortium of international oil companies owns the 480-mile, 670,000 bbl/d SPSE. Finally, Germany imports crude oil from the Netherlands via the Rotterdam-Rhein Pipeline (RRP), connecting Rotterdam with Wessling. The RRP is 200 miles long and has a capacity of 690,000 bbl/d.

Downstream

According to *OGJ*, Germany had 2.3 million bbl/d of crude oil refining capacity in 2005, spread amongst sixteen facilities. The largest refinery in the country is the 302,000-bbl/d plant in Karlsruhe, owned by a consortium of Royal Dutch Shell, Esso (a subsidiary of ExxonMobil), Ruhroel, and ConocoPhillips. Other major facilities in the country include the 270,000-bbl/d Gelsenkirchen facililty (jointly owned by BP and Venezuelan state oil company PdVSA) and Total's 225,000-bbl/d Spergau facility. About half of the refineries in Germany are joint ventures between several oil companies, while the others are wholly-owned by a single company.

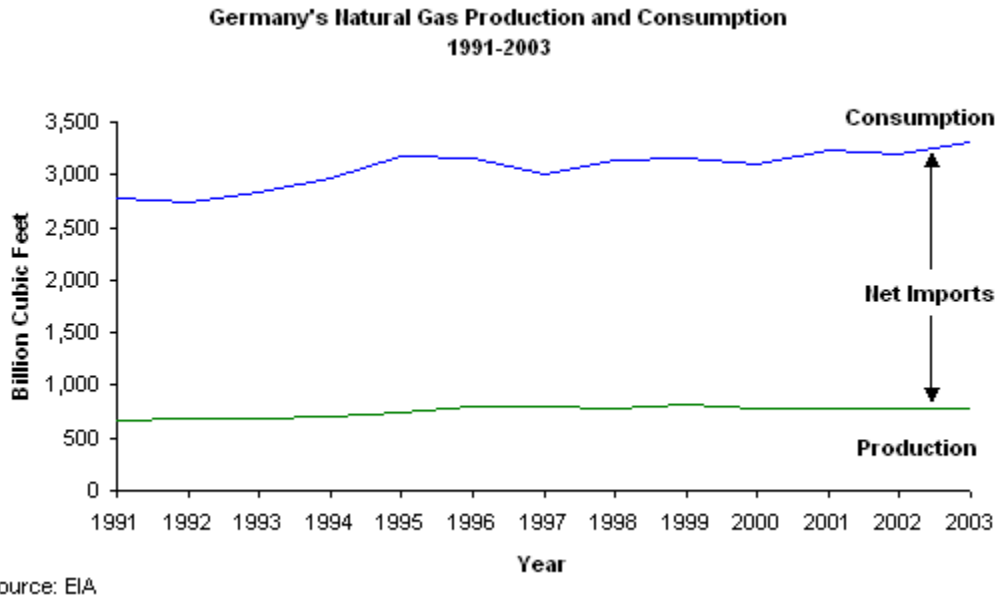
Natural Gas

Germany is the second-largest consumer of natural gas in the EU.

According to *Oil and Gas Journal* (*OGJ*), Germany has 9.9 trillion cubic feet (Tcf) of proven natural gas reserves, the third largest in the EU, after the Netherlands and the United Kingdom. Almost all of Germany's natural gas reserves and production occur in the northwestern state of Niedersachsen, between the Wesser and Elbe rivers. Germany's sector of the North Sea also contains sizable natural gas reserves, currently supporting the A6-B4 production project (see below). However, environmental regulations have curtailed the complete exploration of the area.

Sector Organization

Germany began to liberalize its natural gas sector in the late 1990s in order to comply with EU directives. Unlike other EU countries, though, Germany did not establish a national regulator for the liberalized natural gas sector. Rather, it relied upon negotiated access between suppliers, distributors, and transmission companies. Without transparent open access to the system, several large companies came to dominate the sector. In July 2005, Germany approved a new energy bill that vested regulatory oversight of the natural gas sector with the Bundesnetzagentur (BNA), an existing agency that also regulated the telecommunications and the postal system.



Source: EIA

Private operators control Germany's natural gas production. BEB, jointly owned by Royal Dutch Shell and Esso (a subsidiary of ExxonMobil), controls about half of domestic natural gas production. Other important players include Mobil Erdgas-Erdoel (also a subsidiary of ExxonMobil), RWE, and Wintershall. The largest wholesale distribution company in Germany is E.ON Ruhrgas, controlling about one-half of that market. Germany's wholesale distributors also control most of the national natural gas transport network. Finally, there are thousands of small, independent companies active in the retail distribution sector, many wholly- or partly-owned by municipal governments.

Exploration and Production

In 2003, Germany produced 780 billion cubic feet (Bcf) of natural gas. The country is the third largest producer in the EU, behind the United Kingdom and the Netherlands. Production has risen slightly since 1991, but the lack of new discoveries in the country could hinder future production growth. Over 90 percent of Germany's natural gas production occurs in Niedersachsen. Germany also operates a single offshore natural gas field, A6-B4, located in the North Sea. Operated by Wintershall, A6-B4 came onstream in September 2000, and the project currently produces about 46.8 Bcf of natural gas per year.

Imports

In 2003, Germany consumed 3.3 Tcf of natural gas, with domestic production satisfying 24 percent of this demand. In 2003, Germany received 44 percent of its natural gas imports from Russia, 31 percent from Norway, and 20 percent from the Netherlands.

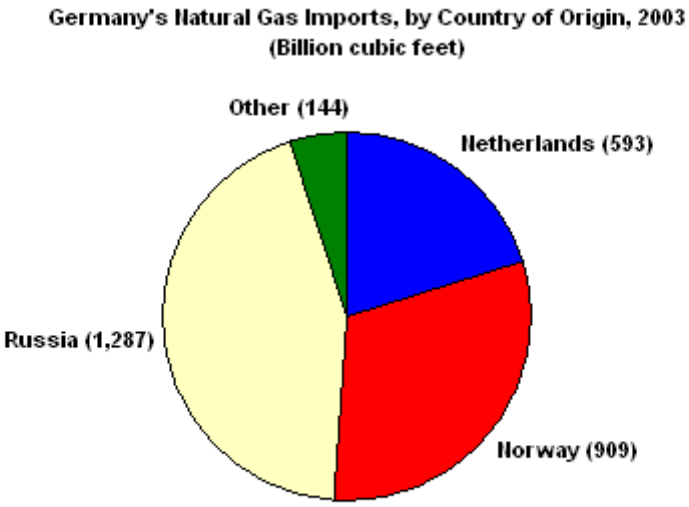
Due to its central

location in Europe, Germany is a major natural gas pipeline transit hub.

Pipelines

Domestic Pipelines - Existing

Germany's domestic natural gas transmission network facilitates the movement of natural gas from import terminals to its interior consumption centers. Wingas operates the 440-mile Mitte-Deutschland-Anbindungs-Leitung (MIDAL) system, which runs the length of the entire country and connects the North Sea coast with Kahrlsruhe. With a capacity of 1.2 Bcf per day (Bcf/d), MIDAL allows Germany to import natural gas from Norway through receiving terminals in Emden and Dornum. Also linking the North Sea coast with the interior is the Norddeutsche Erdgas Transversale (NETRA), a 210-mile, 2.1 Bcf/d system operated by a consortium led by E.ON Ruhrgas. NETRA links the Emden and Dornum receiving terminals with eastern Germany.



Source: Eurostat

There are two important spur lines off MIDAL. Wingas and E.ON jointly operate the 80-mile Rehden-Hamburg Gas pipeline (RHG), which connects Hamburg to the MIDAL system. Second, Wingas operates the 200-mile WEDAL system that links the MIDAL pipeline with the Belgian border near Aachen.

Wingas operates the Jamal-Gas-Anbindungs-Leitung (JAGAL) pipeline system, which brings Russian natural gas into eastern Germany via Poland. The 70-mile JAGAL I connects Mallnow, on the Polish border, to Baruth, south of Berlin. JAGAL II extends 140 miles from Baruth to Rueckersdorf, in the state of Thueringen. Overall system capacity of JAGAL is 2.3 Bcf/d.

Domestic Pipelines – Proposed

Wingas and E.ON-Ruhrgas have proposed the joint construction of a new pipeline in southern Germany. The Suedeutsche Erdgasleitung (SEL) will consist of two parts, running from southwest Germany to the German-Austrian border. SEL-I will extend 160 miles from Lampertheim to Amerdingen, while SEL-II will extend 150 miles from Amerdingen to Burghausen. According to the two companies, they have completed a survey of the pipeline's proposed route and are waiting on government approval before moving forward with the project.

International Pipelines - Existing

Due to its central location in Europe, Germany is an important transit center for natural gas imports from Russia and the North Sea. The 200-mile, 1.2-Bcf/d Sachsen-Thueringen-Erdgasleitung (STEGAL) extends from St. Katharinen, Czech Republic to Reckrod, where it connects to the MIDAL system. STEGAL allows Germany to import natural gas from Russia via the Czech and Slovak natural gas transmission systems. It is also possible for STEGAL to operate in reverse flow mode, facilitating the transmission of North Sea natural gas to the Czech Republic and Slovakia instead.

E.ON Ruhrgas and Gaz de France (GdF) jointly own the 2.1-Bcf/d Mittel-Europaeische-Gasleitung

(MEGAL) system, which has two parts. MEGAL-Nord is a 290-mile pipeline linking the Czech Republic and France via Waidhaus, on the Czech-German border, and Medelsheim, on the French-German border. MEGAL-Sud extends 100 miles from Oberkappel, on the German-Austrian border, to Schwandorf, where it connects to MEGAL-Nord. Besides facilitating the transportation of natural gas from Russia to France, the MEGAL system also has several interconnections with Germany's domestic gas transport network.

The Trans-European Natural Gas Pipeline (TENP), a joint venture of E.ON Ruhrgas and Italy's Sname Rete, runs 600 miles from the German-Dutch border to Italy. This system also supports a reverse flow operation, so it would be possible to also use the TENP to transport Algerian or Libyan natural gas from Italy to Germany.

International Pipelines – Proposed

Russia has long sought an alternative export route to Western Europe for its natural gas. In September 2005, Germany and Russia signed an agreement to begin construction of the $5 billion Northern Europe Gas Pipeline (NEGP), a 750-mile system running beneath the Baltic Sea. The NEGP will have an initial capacity of 5.3 Bcf/d utilizing two, parallel pipelines. According to the argument, Russia's Gazprom will take a majority stake in the project, with Germany's Wintershall and E.ON each taking minority shares. Natural gas could begin flowing through the NEGP by 2010. Gazprom has also floated the idea of eventuall extending the NEGP to the United Kingdom.

A consortium of natural gas companies, led by E.ON, has proposed the construction of the 130-mile Baltic Gas Interconnector (BGI). The BGI would extend from Rostock, Germany to a point in the Baltic Sea, where it would branch towards Copenhagen, Denmark and Trelleborg, Sweden. The project has won approval from Germany, Sweden, and the EU, but Denmark has yet to decide. Danish approval is crucial, because the planned route of the BGI passes through Danish territorial waters.

Poland has proposed the construction of additional pipeline connects with Germany that would facilitate imports of natural gas from the North Sea. E.ON Ruhrgas and Poland's Bartimpex have proposed the construction of a 90-Bcf pipeline from Bernau to Szczecin, Poland. Further, Poland's national oil and gas company, Polskie Gornictwo Naftower I Gazownictwo (PGNiG), announced in August 2005 that it also would like to build a new pipeline between the two countries to facilitate imports from Norway.

Storage

Germany has an estimated 660 Bcf of working natural gas storage capacity, spread among 43 facilities. Germany has the fourth-largest working storage capacity in the world, behind the United States, Russia, and Ukraine. Wingas operates Western Europe's largest underground natural gas storage site, the 150-Bcf Rehden facility in Niedersachsen.

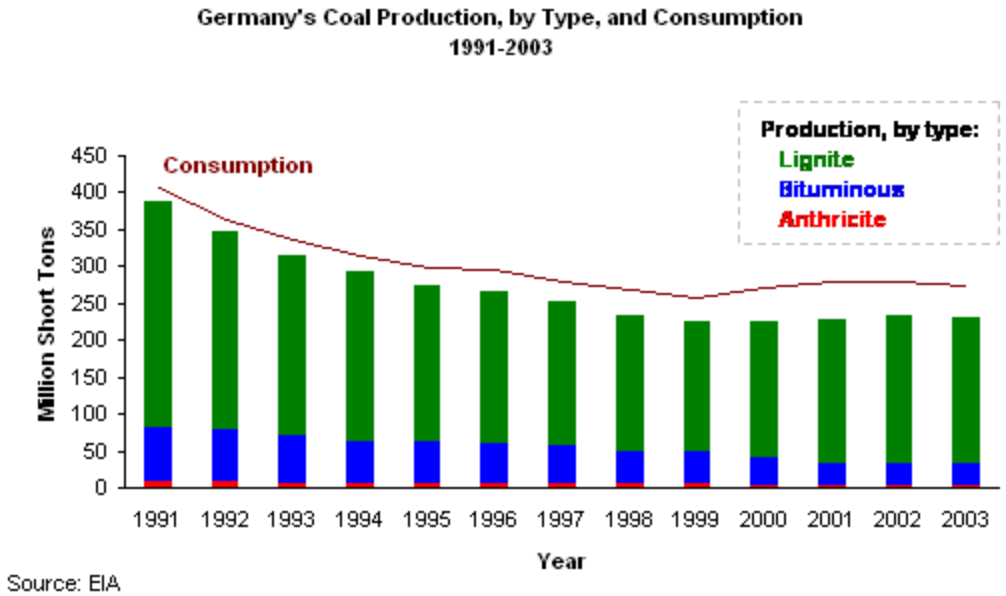
Trading Hubs

In September 2002, BEB, E.ON, Wingas, and Norway's Statoil established the North West European Hub Company (NWE-HubCo), an international natural gas trading hub located near the import terminal in Emden. In April 2004, NEW-HubCo merged with EuroHub, a competing trading hub in the Netherlands.

Coal

Germany has the largest coal reserves in the EU.

As of 2003, Germany had 7.4 billion short tons (Bst) of recoverable coal reserves. Over 97 percent of these coal reserves are lignite (brown coal), with the remainder composed of bituminous and anthracite (hard coal). Brown coal is Germany's most important domestic energy source. According to Statistik der Kohlenwirtschaft, a German coal industry association, brown coal production represents over 40 percent of Germany's total domestic energy production. Coal is an important part of Germany's energy consumption mix, meeting 24 percent of Germany's total energy needs in 2003.



Source: EIA

Production

Germany is the seventh largest coal producer in the world. In 2003, it produced 197.4 million short tons (Mmst), of which 86 percent was lignite, 13 percent was bituminous, and 1 percent was anthracite. The country operates ten mines, employing some 45,000 people. However, German coal production has declined rapidly since reunification in 1989-1990; in 1990, West and East Germany produced a combined 513.7 Mmst of coal. The closure of older, inefficient mines in the former East Germany has been the principle cause of this decline. Currently, over one-half of Germany's lignite production occurs in the Rhineland region in the western part of the country.

Most of Germany's hard coal deposits are deep below ground and difficult to access, making their extraction problematic and expensive. As a result, the government must provide large subsidies to the industry to maintain production. The German government plans to give the hard coal industry $3.6 billion in subsidies in 2005, down from $3.7 billion in 2004. According to an agreement reached with the coal industry in 1997, coal subsidies will fall to $2.3 billion by 2012. Brown coal production, on the other hand, is mostly feasible without subsidies.

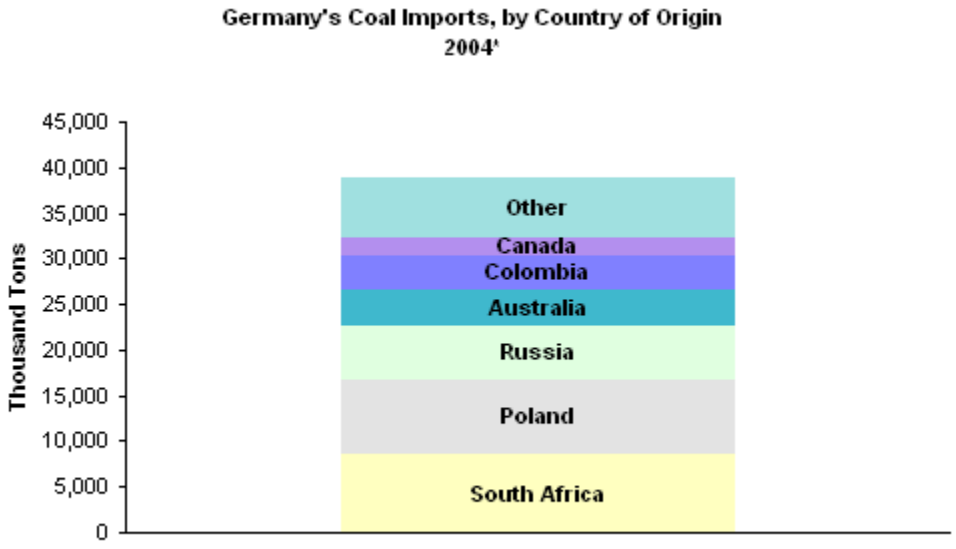
Consumption

Germany is the world's fourth-largest coal consumer, at 273.0 Mmst in 2003. Germany's coal consumption has declined from 407.9 Mmst in 1991, due to the closure of many coal-fired power plants in the former East Germany following reunification. Almost all of Germany's brown coal consumption fires power plants, while the steel industry uses most of the hard coal.

The largest source of German coal imports is South Africa .

Imports

With domestic coal production declining, Germany depends in part upon coal imports to meet domestic demand. According to the International Energy Agency (IEA), Germany imported an estimated 39.0 Mmst in 2004, of which 99 percent was hard coal. South Africa was the single largest source of these imports, contributing 22 percent in 2004, followed by Poland (21 percent) and Russia (15 percent).



Source: IEA *Estimated

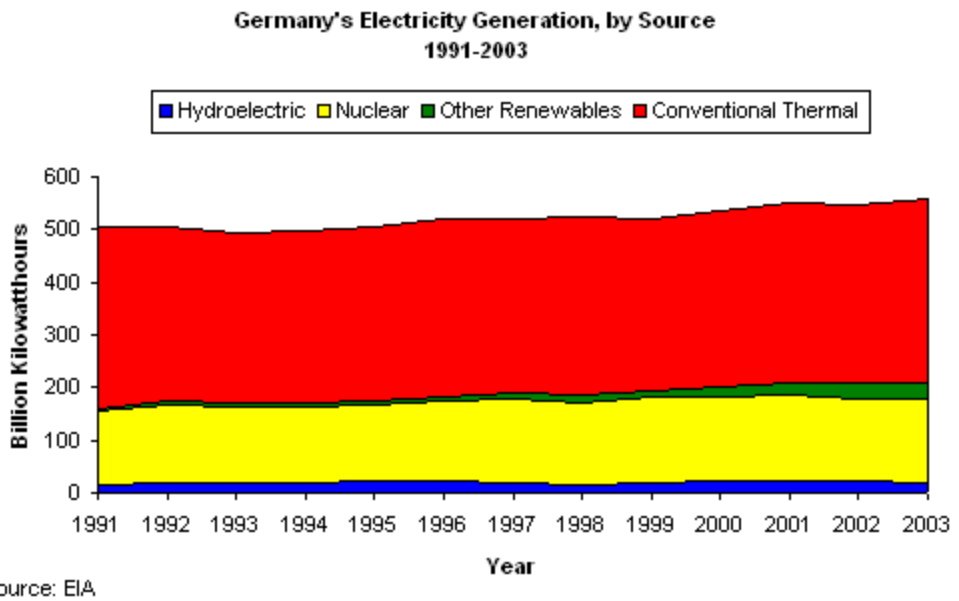
Electricity

Germany has Europe's largest electricity market.

In 2003, Germany had installed electricity generating capacity of 119.8 gigawatts. Also in 2003, Germany produced 558.1 billion kilowatthours (Bkwh) and consumed 510.4 Bwkh of electric power. The largest share of this production (63 percent) came from conventional thermal sources, followed by nuclear (28 percent), and other renewables (6 percent). Further, according to the International Energy Agency (IEA), the largest shares of the conventional thermal generation were brown coal (46 percent), hard coal (37 percent), and natural gas (12 percent).

Sector Organization

Germany liberalized its electricity sector in 1998, per EU requirements, with the passage of the Energy Industry Act. Unlike other EU countries, Germany did not immediately establish a regulatory agency, rather relying on negotiated agreements between sector actors. There was general dissatisfaction with this arrangement, with the European Commission threatening to bring legal action against Germany. In response, Germany enacted a new energy law in July 2005 that vested regulatory oversight of the industry with the newly created Bundesnetzagentur (BNA), which also gained regulatory authority over the gas sector (see here).

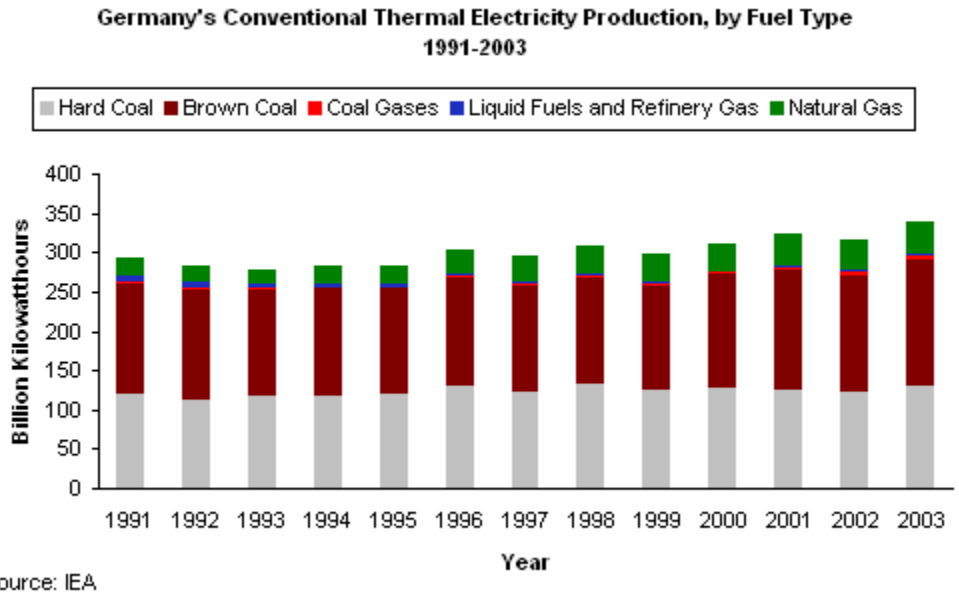


Source: EIA

The new energy law also requires the creation of a set tariff schedule for network access, rather than the rates currently negotiated on a bilateral basis between suppliers and distributors. Germany's competition office and BNA have stated that they will break existing, long-term contracts and enforce third-party access to the national grid. The government hopes that these new measures will reduce German electricity rates, which are some of the highest in the EU.

Four companies control the largest share of Germany's electricity generation, the result of consolidation over the past several years: RWE/VEW; E.ON, Energie Baden-Wuerttemburg (EnBW), and Sweden-based Vattenfall. These four companies also operate Germany's national transmission grid, as there is no unified operator for the entire country. Finally, there are numerous local distribution companies, many owned by state or municipal governments, which actually sell electricity to end users, though these companies often also own a small amount of generating capacity. Under the new German energy law, state governments, not BNA, have regulatory oversight of these smaller operators.

Conventional Thermal



Source: IEA

Coal is the most important contributor to Germany's conventional thermal electricity generation. However, natural gas generation has increased significantly in recent years. Since 1991, the share of conventional thermal electricity generation supplied natural gas has increased from 6.7 percent to 12.0 percent, according to the IEA. The increase in natural gas has come at the expense of oil-fired capacity, which has declined 70 percent since 1991. Despite the environmental concerns surrounding coal-fired generating capacity and Germany's need to meet its obligations under the Kyoto Protocol, the abundance of domestic coal reserves should result in coal remaining as Germany's most prominent electricity fuel source for the foreseeable future.

Germany's power market liberalization has begun to attract more foreign investors to the generation sector. In May 2005, Norway's Statkraft announced an agreement with Germany's Mark-E to build a gas-fired power plant in Herdecke, with a capacity of 400 megawatts (MW). In July 2005, Netherlands-based Essent began talks with German power companies about building a new gas-fired power plant in Germany.

Germany is the fourth-largest producer of nuclear power in the world, but plans to close all nuclear power plants by 2022.

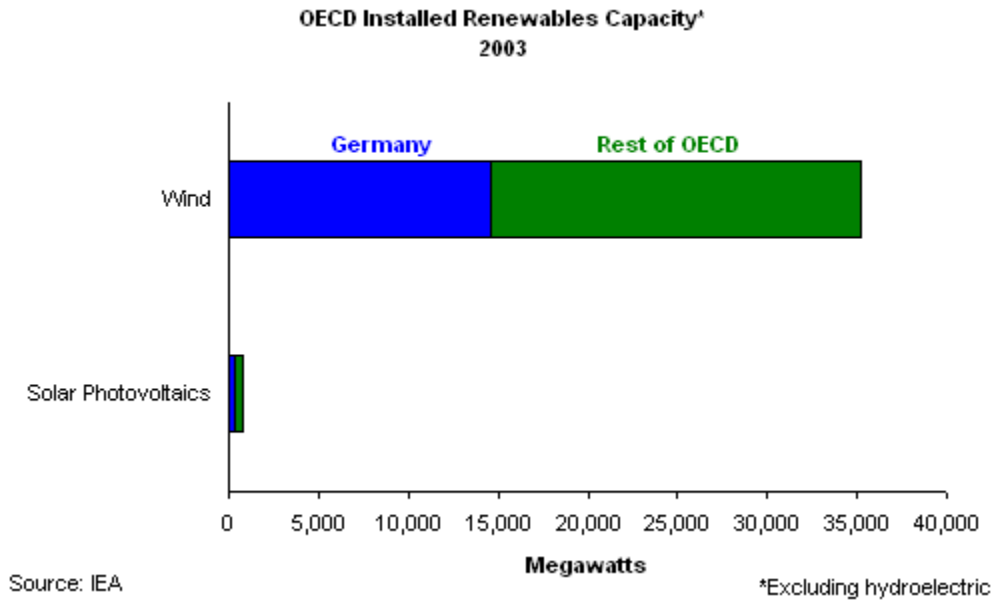
Nuclear

In 2003, Germany was the fourth largest generator of nuclear power in the world, following the United States, Japan, and France. Germany currently has 17 operating nuclear power plants and two shutdown plants (see below). All four of the major generating companies operate some nuclear capacity: E.ON holds stakes in twelve plants, while nuclear power represents 18 percent of the generating capacity operated by RWE and 40 percent of the capacity operated by EnBW.

Nuclear power has long been controversial in Germany, with the Green Party calling for the closure of all plants in the country. With the Greens joining the governing coalition in 1998, the phasing-out of nuclear power in the country became possible. In June 2001, the German government passed legislation and signed agreements with the industry calling for the closing of all nuclear power stations in the country by 2022. Per the closure schedule, Germany shut down the Stade plant in November 2003 and the Obrighein plant in May 2005. In addition, it plans to close the Bilblis A reactor in February 2007. The nuclear phase-out plan has provoked opposition from industry groups and opposition politicians.

Germany is one of the world's largest operators of non-hydro renewables capacity in the world.

Other Renewables



According to Germany's Renewable Energy Sources Act, the country aims to increase the share of electric power sourced from renewables to 12.5 percent by 2010 and 20 percent by 2020. Germany is already one of the world's largest operators of renewables capacity. According to the IEA, Germany had 390 MW of installed solar photovoltaic capacity and 14,600 MW of installed wind capacity, or 42 and 41 percent, respectively, of the total capacity installed in the Organization for Economic Cooperation and Development (OECD).

In September 2004, Shell began operating a 5-MW solar plant in Leipzig. Another firm, City Solar

AG, is reportedly building a 7.4-MW solar plant in Goettelborn. In November 2003, Germany finished its first geothermal plant, located at Neustadt-Glewe.

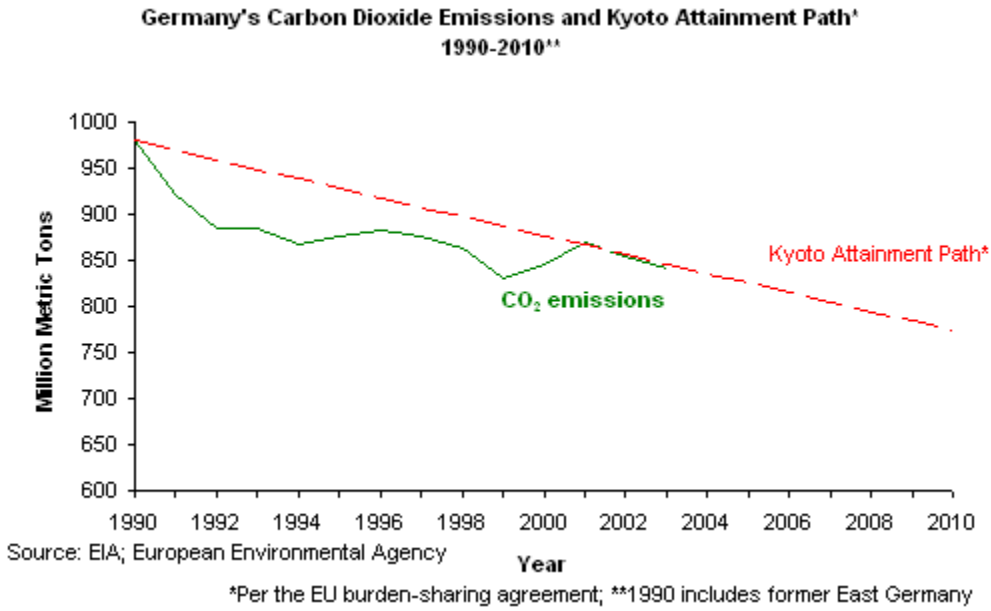
Environment

Germany is the third-largest carbon dioxide emitter in the OECD.

Germany has a strong commitment to protecting its environment. It has actively promoted the use of renewable energy, both under the Kohl government with the Electricity Feed Law, and now under Schroeder's government with eco-taxes. However, Germany's reliance on coal, particularly brown coal, for electricity generation and the heavy industrialization of the economy has lead to serious problems with air pollution, acid rain, and habitat degradation. These problems are particularly acute in the former East Germany.

Germany consumed 14.2 quadrillion British Thermal Units (Btu) of total energy in 2003, of which oil was 39 percent, coal was 24 percent, and natural gas was 23 percent. With an energy intensity of 6,800 Btu per dollar (2000, PPP) of economic output in 2003, Germany is below the average energy intensity for the 25 countries in the OECD.

Germany ratified the Kyoto Protocol on climate change on May 31, 2002. In 2003, the country emitted 842.0 million metric tons (Mmt) of carbon dioxide, making it the sixth-largest emitter of carbon dioxide in the world and the third largest within the OECD. The EU has decided to meet its Kyoto obligations as a whole, rather than as individual signatories. Under the EU's burden-sharing program, Germany must cut its carbon dioxide emissions by 21 percent relative to the 1990 baseline during the 2008-2012 commitment period. The EU expected Germany to make such deep cuts, because the country has already experienced a sharp decline in carbon dioxide emissions following reunification.



Profile

Country Overview

Head of Government	Chancellor Gerhard Schroeder (since October 1998)
Location	Central Europe, bordering the Baltic Sea and the North Sea, between the Netherlands and Poland, south of Denmark
Independence	18 January 1871 (German Empire unification); divided into four zones of occupation (UK, US, USSR, and later, France) in 1945 following World War II; Federal Republic of Germany (FRG or West Germany) proclaimed 23 May 1949 and included the former UK, US, and French zones; German Democratic Republic (GDR or East Germany) proclaimed 7 October 1949 and included the former USSR zone; unification of West Germany and East Germany took place 3 October 1990; all four powers formally relinquished rights 15 March 1991
Population (2005E)	82,431,390

Languages	German
Religion	Protestant 34%, Roman Catholic 34%, Muslim 3.7%, unaffiliated or other 28.3%
Ethnic Group(s)	German 91.5%, Turkish 2.4%, other 6.1% (made up largely of Greek, Italian, Polish, Russian, Serbo-Croatian, Spanish)

Economic Overview

Minister of Economics and Labor	Wolfgang Clement
Currency/Exchange Rate (October 19, 2005)	1 euro = 1.199 US$
Inflation Rate (2004E, 2005F, 2006F)	1.7%, 1.9%, 2.6%
Gross Domestic Product (GDP, 2004E)	$2.7 trillion
Real GDP Growth Rate (2004E, 2005F, 2006F)	1.1%, 1.0%, 1.5%
Unemployment Rate (August 2005E)	10.8%
Exports (2004E)	$902 billion
Exports - Commodities	machinery, vehicles, chemicals, metals and manufactures, foodstuffs, textiles
Exports - Partners (2004E)	France 10.3%, US 8.8%, UK 8.3%, Italy 7.2%, Netherlands 6.2%, Belgium 5.6%, Austria 5.4%, Spain 5%
Imports (2004E)	$712 billion
Imports - Commodities	machinery, vehicles, chemicals, foodstuffs, textiles, metals
Imports - Partners (2004E)	France 9%, Netherlands 8.3%, US 7%, Italy 6.1%, UK 5.9%, China 5.6%, Belgium 4.9%, Austria 4.2%
Current Account Balance (2004E)	$104 billion

Energy Overview

Proven Oil Reserves (January 1, 2005E)	0.4 billion barrels
Oil Production (2005E)	169.3 thousand barrels per day, of which 38% was crude oil.
Oil Consumption (2005E)	2,627.5 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2005E)	9.9 trillion cubic feet
Natural Gas Production (2003E)	0.8 trillion cubic feet
Natural Gas Consumption (2003E)	3.3 trillion cubic feet
Recoverable Coal Reserves (2003E)	7,428.5 million short tons
Coal Production (2003E)	229.1 million short tons
Coal Consumption (2003E)	273 million short tons
Electricity Installed Capacity (2003E)	119.8 gigawatts
Electricity Production (2003E)	558.1 billion kilowatt hours
Electricity Consumption (2003E)	510.4 billion kilowatt hours
Total Energy Consumption (2003E)	14.2 quadrillion Btus*, of which Oil (39%), Coal (24%), Natural Gas (23%), Nuclear (11%), Other Renewables (2%), Hydroelectricity (1%)

Total Per Capita Energy Consumption (2003E)	172.7 million Btus
Energy Intensity (2003E)	6,829.1 Btu per $2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2003E)	842 million metric tons, of which Oil (42%), Coal (38%), Natural Gas (21%)
Per-Capita, Energy-Related Carbon Dioxide Emissions (2003E)	10.2 metric tons
Carbon Dioxide Intensity (2003E)	0.4 Metric tons per thousand $2000-PPP**
Environmental Issues	emissions from coal-burning utilities and industries contribute to air pollution; acid rain, resulting from sulfur dioxide emissions, is damaging forests; pollution in the Baltic Sea from raw sewage and industrial effluents from rivers in eastern Germany; hazardous waste disposal; government established a mechanism for ending the use of nuclear power over the next 15 years; government working to meet EU commitment to identify nature preservation areas in line with the EU's Flora, Fauna, and Habitat directive
Major Environmental Agreements	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulfur 85, Air Pollution-Sulfur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol, Antarctic-Marine Living Resources, Antarctic Seals, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands, Whaling signed, but not ratified: none of the selected agreements

Oil and Gas Industry

Organization	Privitized. Major domestic companies include Ruhr Oel, E.On-Ruhrgas, Wintershall, Wingas
Major Oil/Gas Ports	Rostock, Wilhelmshaven, Luebeck, Emden, Dornum
Foreign Company Involvement	Royal Dutch Shell, ExxonMobil, Total
Major Oil Fields (production, bbl/d)	Mittelplate (39,500)
Major Natural Gas Fields (production, Mmcf/d)	A6-B4 (128)
Major Pipelines (capacity)	MVL (380,000 bbl/d), NDO (150,000 bbl/d), NOW (300,000 bbl/d), TAL (690,000 bbl/d), RRP (690,000 bbl/d); MIDAL (1.2 Bcf/d), NETRA (2.1 Bcf/d), RHG, WEGAL, JAGAL (2.3 Bcf/d), SEL, STEGAL (1.2 Bcf/d), MEGAL (2.1 Bcf/d), TENP
Major Refineries (capacity, bbl/d)	Karlsruhe (302,000), Gelsenkirchen (271,900), Neustadt (262,300) Leuna-Spergau (225,000), Schwedt (220,000), Wilhelmshaven (220,000)

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

EIA - Country Information on Germany

U.S. Government

CIA World Factbook - Germany
U.S. State Department's Consular Information Sheet - Germany
U.S. Department of Commerce Country Commercial Guide – Germany [pdf]
U.S. State Department Background Notes on Germany
U.S. Embassy in Germany

Associations and Institutions
Arbeitsgemienschaft Energiebilanzen
Der Bundesverband der Energie-Abnehmer e.V. (VEA)
Der Bundesverband der deutschen Gas- und Wasserwirtschaft (BGW)
Der Bundesverband Braunkohle

Der Gesamtverband des deutschen Steinkohlen-Bergbaus
Niedersächsisches Landesamt für Bodenforschung
Solarenergie-Förderverein Deutschland (SFV)
Verein Deutscher Kohlenimporteure
Verband der Elektrizitätswirtschaft
Wirtschaftsverband Erdöl- und Erdgasgewinnung

Foreign Government Agencies
Deutsche Emissionshandelsstelle (DEHSt)

Oil and Natural Gas
BEB
EuroHub
Ruhrgas
Thyssengas
Verbundnetz Gas Aktiengesellschaft (VNG)
Wingas
Wintershall
Bayern Oil
Mineraloelraffinerie Oberrhein
PCK Raffinerie GmbH
Total Raffinerie Mitteldeutschland
The North-West Pipeline (Die Nord-West Oelleitung GmbH -NWO)
The Southern European Pipeline (SPSE)
The Transalpine Pipeline (TAL)
Die Mineralölverbundleitung GmbH Schwedt

Coal
BKB AG
Lausitzer and Mitteldeutsche Bergbau-Verwaltunggesellschaft mbH
Mitteldeustche Braunkohlegesellschaft mbH
RAG
RWE Rheinbraun AG
Romonta GmBH
Vatenfall Europe Mining AG

Electricity
Concord Power
Intergen
Energieversorgung Gera GmbH (EGG)
EWE AG Oldenburg
Geosol
MVV Energie AG
RWE
Eon
EWE

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Platt's Oilgram News
The German Electricity Association
The German Federal Ministry for Economics and Export Control
The German Federal Ministry for Economics and Labor
The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
The United Nations Framework Convention on Climate Change
U.S. Energy Information Administration
World Gas Intelligence.

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